

What is claimed is:

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- 1 1. An apparatus comprising:
2 a memory device having a memory device input data bus including a least
3 significant bit and a plurality of non-least significant bits; and
4 a first repair router having a first repair router input data bus including a least
5 significant bit and a plurality of non-least significant bits, and a first repair router
6 output data bus coupled to the memory device input data bus, the first repair router
7 having internal routing circuitry to route any of the plurality of non-least significant
8 bits of the first repair router input data bus to the least significant bit of the memory
9 device input data bus.
- 1 2. The apparatus of claim 1 wherein:
2 the plurality of non-least significant bits includes a next-to-least significant
3 bit; and
4 the first repair router further includes additional repair routing circuitry to
5 route any of the non-least significant bits to the next-to-least significant bit.
- 1 3. The apparatus of claim 1 wherein the memory device includes a memory
2 device output data bus including a least significant bit and a plurality of non-least
3 significant bits, the apparatus further comprising:
4 a second repair router having a second repair router input data bus coupled to
5 the memory device output data bus, and having a second repair router output data bus
6 including a least significant bit and a plurality of non-least significant bits, the
7 second repair router having internal routing circuitry to route the least significant bit
8 of the memory device output data bus to any of the plurality of non-least significant
9 bits of the second repair router output data bus.

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1 4. The apparatus of claim 3 wherein the memory device includes a plurality of
2 address ranges, and the first and second repair routers include address decoding
3 circuitry to decode each of the plurality of address ranges.

1 5. The apparatus of claim 4 wherein the memory device includes two address
2 ranges defined by a state of a most significant address bit.

1 6. The apparatus of claim 3 further comprising a display device coupled to the
2 second repair router output data bus.

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1 7. The apparatus of claim 6 wherein the display device is a color display device,
2 and the memory device and first and second repair routers influence a first color of
3 the color display device, the apparatus further comprising:

4 a second memory device; and

5 a second pair of repair routers coupled to the second memory device to
6 influence a second color of the color liquid crystal display.

1 8. The apparatus of claim 7 further comprising:

2 a third memory device; and

3 a third pair of repair routers coupled to the third memory device to influence
4 a third color of the color liquid crystal display.

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1 9. A memory device comprising:

2 a plurality of addressable memory locations, each including a least significant
3 bit and a plurality of non-least significant bits; and

4 a first repair router having a repair router input data bus with a least
5 significant bit and a plurality of non-least significant bits, and having a repair router
6 output data bus coupled to the plurality of addressable memory locations, the first
7 repair router including routing circuitry to route any of the plurality of non-least

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8 significant bits of the repair router input data bus to the least significant bit of at least
9 one of the plurality of addressable memory locations.

1 10. The memory device of claim 9 wherein:
2 the plurality of addressable memory locations are arranged into a plurality of
3 address ranges; and
4 the first repair router further includes address decoding circuitry to decode
5 each of the plurality of address ranges.

1 11. The memory device of claim 10 further comprising a second repair router
2 coupled to an output data bus of the memory device, the second repair router
3 including routing circuitry to reverse any routing performed by the first repair router.

1 12. The memory device of claim 9 wherein the first repair router is configured to
2 route a specific non-least significant bit to the least significant bit of the plurality of
3 addressable memory locations when a problem exists with the specific non-least
4 significant bit in at least one of the plurality of addressable memory locations.

1 13. The memory device of claim 9 further comprising a second repair router
2 coupled to an output data bus of the memory device, the second repair router
3 including routing circuitry to reverse any routing performed by the first repair router.

1 14. The memory device of claim 9 wherein:
2 the plurality of non-least significant bits includes a next-to-least significant
3 bit; and
4 the first repair router further includes routing circuitry to route any of the
5 plurality of non-least significant bits of the repair router input data bus to the next-to-
6 least significant bit of at least one of the plurality of addressable memory locations.

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- 1 15. A display system comprising:
2 a display device having an array of pixels;
3 a memory having a plurality of addresses, each of the plurality of addresses
4 corresponding to one pixel in the array of pixels, and each of the plurality of
5 addresses including a least significant data bit and a plurality of non-least significant
6 data bits; and
7 a repair router to utilize the least significant bit of at least one of the plurality
8 of addresses to hold non-least significant information.

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- 1 16. The display system of claim 15 wherein the display device is a silicon light
2 modulator.

- 1 17. The display system of claim 15 wherein the memory is configured to hold a
2 first color information, the display system further comprising:
3 a second memory configured to hold second color information; and
4 a second repair router coupled to the second memory.

- 1 18. The display system of claim 17 further comprising:
2 a third memory configured to hold third color information; and
3 a third repair router coupled to the third memory.

- 1 19. The display system of claim 15 wherein:
2 the plurality of addresses are arranged in a plurality of groups; and
3 the repair router includes routing circuitry to utilize the least significant bits
4 of each of the plurality of groups separately.

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- 1 20. An integrated circuit comprising:
2 a memory device having an input data bus and an output data bus; and
3 first and second repair routers coupled to the input data bus and the output
4 data bus, respectively, the first and second repair routers including routing circuitry

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5 to route data to and from the memory device as a function of defects in the memory
6 device.

1 21. The integrated circuit of claim 20 further comprising a reflective electrode
2 coupled to the memory, the reflective electrode having a plurality of pixels
3 responsive to data from the memory device as received by the second repair router.

1 22. The integrated circuit of claim 21 wherein:
2 the memory device includes a plurality of groups of data locations; and
3 the first and second repair routers each include circuitry to separately route
4 data for each of the plurality of groups of data locations.

1 23. The integrated circuit of claim 22 further comprising:
2 second and third memory devices; and
3 second and third pairs of repair routers coupled to the second and third
4 memory devices respectively.

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